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## (54) METHOD FOR DETECTING LINE SHAPE AND ITS DEVICE

### (57)Abstract:

**PURPOSE:** To easily detect a line shape accurately by obtaining an optimum approximated straight line for each partial dot series and calculating at least either of a tilt component and a segment component of each optimum approximated straight line so as to generate characteristic diagrams and discriminating a line shape of a line drawing image based on one of the characteristic diagrams.

**CONSTITUTION:** The device is made up of a pre-processing section 1, a characteristic diagram generating section 2, and a line shape discrimination section 3 and is provided with a database 4 relating to at least either of tilt component characteristic patterns and segment component characteristic patterns as required.

Then the pre-processing section 1 applies pre-processing of edge detection, binarization and thinning processing to a received image. The characteristic diagram generating section 2 divides sequentially a point series being components of a line drawing image obtained by the pre-processing section 1 into a partial dot series comprising a prescribed number of object points and obtains an optimum approximated straight line for each partial dot series and



calculates at least one of the tilt component and the segment component of each optimum approximated straight line to generate a characteristic diagram. The line shape discrimination section 3 uses the database 4 as required to analyze the characteristic diagram thereby discriminating the line shape.

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